BIOS

Alberta Society of Professional Biologists • Spring 2008 Volume 23 • Number 1

A Message From Your President

Welcome to the latest edition of BIOS. While most of you were out in the field during the summer of 2007, your Board had some discussion on an issue that I would like to inform you about.

Use of your ASPB Stamp

Remember back to the day you became an ASPB member and you received in the mail a member binder, your stamp and your certificate. Have you taken your stamp out of the drawer since the day that you received it? All members should be using their stamp on work they complete. It is especially important to stamp work that is submitted to a regulator. Stamping and standing behind the work you complete is an expectation of members of professional societies. This is important today and will be in the future given the scrutiny that our work is under by both regulators and the public. So be proud of the work you complete and get a new ink pad! You can even scan a copy of your stamp and insert it into documents electronically. A formal code of practice for stamp use will be developed in the coming months; however, it is the expectation of the ASPB that your stamp is used.

As a P. BIOL. (ASPB member)

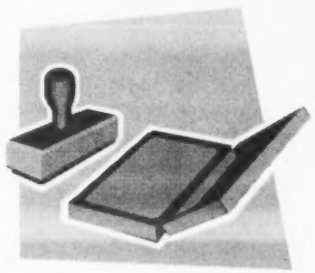
- certifies that you (or the person supervised) did the work
- certifies that the work was professionally done by a regulated professional
- certifies that the work done was within the scope of practice by the practitioner as a regulated professional
- signifies that the work presented can be relied upon by the client, regulator, etc.
- certifies that you take responsibility for the work

As a CLIENT/PUBLIC

- can rely on the work to make decisions
- can rely on the work being conducted professionally
- can rely on the fact that the P. BIOL was qualified to do the work
- can rely on the fact the work was done within the scope and expertise of the practitioner certifying the work

As always, we are looking for feedback from the membership, so feel free to contact one of the Board members if you have any ideas or questions.

Carol Engstrom P. Biol
President (2008-2009)



In This Issue

A Message from Your President 1
New BIOS Editor 2
Updates for the Executive and Board 2
Global Warming 3
ASPB's J. Dewey Soper Award 4
Board Members 4
Members at Work 5
Award Winner–Edmonton Regional Science Fair 5
Plant Identification Workshop 6
Mentoring Program 6
New Applicants Lists 7
The Biofuel Frenzy 8
The Perfect Day Off 8

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BIOS is written for the enjoyment of the members of the Alberta Society of Professional Biologists and those interested in the field of professional biology. Articles or comments are welcomed and should be communicated to the ASPB Office.
Editing and layout Linda Zimmerling

Hold the Presses! No, Start the Presses!

The latest BIOS issue has finally hit the presses. A big thank you to all who submitted articles, and our sincere apologies for the delay in getting them to print.

The new editor of the BIOS is Linda Zimmerling. Please submit any articles to Linda at lindazim@shaw.ca.

Membership Update
ASPB membership as of December 1, 2007: Total 728

Regular	571
Honorary	6
Biologists in Training	112
Student	12
Temporary Withdrawn	20
Associate	6
Public	1

Updates from the Executive and Board

Website
Member registration and renewal is available on the website. Additionally there is a members section that we encourage you to sign up for. Board meeting minutes, events and member practice notes and a searchable member database will be posted in this area.

TILMA
Updates coming in the Summer 2008 edition.

Robin Leech

JEPP/ Reclamation-Remediation
The ASPB remains an active member of Alberta's Joint Environmental Professional Practices Committee (JEPP) which includes membership from six professional regulatory organizations in the province.

Peter May

Ethics and Discipline
ASPB has been working hard this year to identify ethics requirements of ASPB members to keep up with the growing membership and changes within the province and within Canada. The Code of Ethics has been updated and will be available on the website soon. An ethics committee is being developed to identify appropriate requirements for members and to establish a timeframe within which to implement it. Once these requirements have been established, ASPB is committed to informing the membership in a manner that is easy for members to understand and implement. If you want any information regarding this process, please contact Laurie Hamilton at laurie_hamilton@irisenvironmental.ca.

Discipline Process:

ASPB is in the process of reviewing the existing discipline process. The discipline process update is anticipated to be complete once the ethics requirements and standards of practice are finalized and ready for mandatory implementation by the membership. Considerations in developing the process include a complaints database, requirements for submitting a formal complaint, procedure in investigating a complaint, dispute resolution, development of a discipline committee and identification of appropriate disciplinary actions (as set out by POARA).

Laurie Hamilton

Global Warming? A Spoof by Robin Leech, P. Biol.

About 13,000 years ago, when I was a lad, we couldn't move around much in what is now Alberta. That was mainly because there really wasn't very much of Alberta to move around in. You see, there were huge glaciers from the mountains to the west, even thicker ones to the northeast, and there was only a narrow corridor of land between these glaciers.

The air was cooler then, and the glaciers grew bigger, causing our narrow corridor to shrink even more. Because of this narrow corridor between these glaciers, hunting was good -- there was lots of game, mainly because there was plenty of water, and lush vegetation for the deer and wapiti to feed on right up to the edges of the glaciers.

The corridor didn't give the animals much room to move around in either. They had to migrate past us -- there was nowhere else for them to go. As the animals were never far from us, we had almost permanent villages. It was almost like they came to us.

Life was good then!

Because we didn't have to go far to find food, we could spend our time making bows and arrows, flint arrowheads, training our dogs to help us hunt, and doing cultural things such as telling our people's history and stories to our children. All our cultural events were around huge camp fires. Sometimes these events lasted for days, and so did the camp fires. Feeding the camp fires and our in-tent fires meant we had to cut down large parts of the local small forests in order to stockpile wood.

Life was good then!

All that changed when the glaciers melted away – the animals scattered, and we had to start migrating in order to stay near them. It was difficult for us to move around while we followed the animals because of the huge rivers that formed from the melting ice. We had nothing other than ourselves and dogs to help us haul our belongings.

We felt that the disappearance of the glaciers was caused by something we did. So we called together all the chiefs and elders to see if we could figure out what caused the glaciers to melt away. Some said it was because we had so many camp fires and in-tent fires that it caused a glacial warming. Others said it was because there were so many of us breathing that the air started to become warmer. Others felt that it was a mix of camp fires, in-tent fires and our breathing. Others thought it was caused by evil spirits, but I could never see that. The chiefs and elders never did come to a decision.

After the glaciers disappeared, we had to start our own migrations in order to follow the animal herds. We tried to devise ways to keep the herds near us. One of our techniques was to start grass and bush fires. The burning created new green growth, causing the game to come to feed. This was good for only a little while, as we soon hunted out the local animals, and we had to move again.

Life was not good then!

A few years after the glaciers melted, it became much warmer. The chiefs and elders called this the "really hot period" (post-glacial hypsithermal period). The forests disappeared, and plants and animals never seen before started to appear, right up into what is now the Peace River Country. Some of the new plants were cactuses, sagebrush and buffaloberry. Some of the new animals were snakes and spiders. Hunting for food was very difficult, mainly because there were fewer game animals. About the only places we could find game was in the river valleys and coulees, and even these were drying up. And there were too many people, mostly because all of us were hunting and living in the same small areas near water and food. Often there were deadly fights between villages and villagers because of the limited food and water resources.

Life was not good then!

Eventually it started to cool again. There was more game, more water and there were more trees. The poplars, birch and spruce trees came back in the north, and there was short-grass prairie in the south. We continued to migrate around Alberta by following the game animals, but for the past few hundred years, we had help from the horses we caught and tamed. We had not seen this kind of animal before, and to us it was a blessing. There were not very many of us, and game was plentiful. No one starved. Some winters were very cold, some summers were very warm. No one worried about cooling or warming or scarce food or water.

Life was pretty good then! It wasn't as good as it used to be, but it was still pretty good!

Then a few years ago, some new guys came here. In short order, they cleared the land, invented things that run on gasoline and diesel, built huge villages, and made paved highways – no walking for them, nosiree! The exhausts from these things and their in-house fires made the air stink, and about the same time, we noted that the air was warming again.

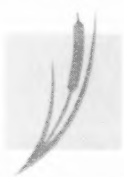
This time, we blamed the new guys for the air warming. They called all their chiefs and elders and started blaming one another. No one wanted to take the blame, and no one wanted to change. And none of them changed a thing.

Since these new guys came here, the lakes and rivers are smaller, and they've cut down the forests faster than we ever did. I think the winters are becoming shorter and are not so cold.

Maybe it's just the imagination of an old man. Maybe it's that life and climates are nothing but cycles, sometimes good, sometimes not so good, sometimes hot, sometimes cold. Maybe we should just sit back, watch it, and not try to fix it or to change it.

Maybe life is pretty good these days!

Hey!! Listen! Hear that? I think I hear the sky falling.



Alberta Society of Professional Biologists' J. Dewey Soper Award for 2007

Joyce Gould receiving the J. Dewey Soper Award from Dave Ealey on Monday, November 19, 2007 At St. George's Church
Photo by Robin Leech

Fifteen or twenty years ago, few people in Alberta knew what a "rare plant" was. Today, Alberta has complete and current ranking lists of Alberta's vascular plants, mosses and lichens, and Dr. Joyce Gould has played a pivotal role in this transition. Joyce Gould obtained an Honours B.Sc. in Botany from the University of Alberta and an M.Sc. from the University of Toronto. She recently defended her Ph.D. on "Patterns and Attributes of Rarity in the Vascular Flora of Alberta." She has conducted plant surveys in Alberta, Ontario, Nunavut, and the Yukon and has made a number of contributions to botanical knowledge over the course of her career, including the first report of the orchid *Corallorhiza trifida* from Baffin Island in 1997. Joyce has been employed as a botanist for the Alberta government since 1990 and was with the Alberta Natural Heritage Information Centre (ANHIC) since its inception in 1996 until 2007. As ANHIC's Senior Botanist, Joyce received records of rare plant occurrences from botanists around the province, and assessed their prevalence in order to assign provincial status ranks. This has been done for every plant, moss and lichen in Alberta! Currently Joyce is the Science Coordinator for Alberta Parks and is involved in research-related plant work, as well as coordinating needs of the field when it comes to plant-related issues.

Joyce recently helped to publish the Rare Vascular Plants of Alberta, which has improved the effectiveness of rare plant identification in Alberta immeasurably. Joyce is also currently undertaking the task of revising the Flora of Alberta with John Packer; a lengthy and challenging project, especially with numerous recent changes in North American taxonomy. Joyce reviews the status of plants at both the provincial and federal levels, as a member of the secretariat for the Scientific Subcommittee of the Endangered Species Conservation Committee (ESCC) in Alberta and a member of the vascular plant subcommittee of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Joyce serves on two recovery teams (western spiderwort and yucca).

With today's challenge of increasing development and public land use issues, coupled with increased concern over species at risk, the ability to track and protect the native flora of our province is of vital importance to a healthy and productive future. Though public attention and legislation has traditionally focused on charismatic macrofauna, Joyce Gould has played a key role in raising the profile of the rare flora of Alberta to industry and the public, and promoting its protection.

Story by Mari Decker, Laurie Hamilton, and Robin Leech.

ASPB Board Members Meet with the Dean of Science and his Assistant at the University of Alberta

Attending Board Members (left to right) Gerry Haekel, Robin Leech (ASPB Executive Director), Bob Holland, Dave McInnes (Public Member), Dr. Gregory Taylor (Dean of Science), Emily Lennstrom (Dean's assistant).

Members at Work

El Vueol del Condor

When storms from the pacific move over the Andes of Patagonia, the Adean condor heads east to the foothills to take refuge from the high winds and snow. They find their safe roosts on steep cliffs called condoreras. It was below these remote cliffs in Argentina that I spent most of my time during January and February of this year monitoring the condor.

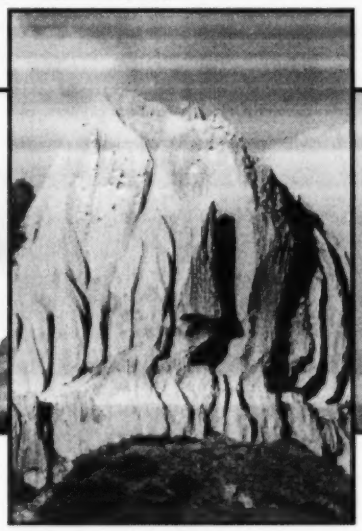
My time in Argentina was spent mainly in the area surrounding San Carlos de Bariloche working with a biologist from the University of San Carlos de Bariloche through an NGO called Global Vision International. This group provides volunteers, field supplies and logistical strategies for local biologists so they can expand the scope of their research and gather far more data year round than they would be able to with their funding provided by the University and the local governments.

The Andean condor is an endangered species in the northern countries of South America, but its population remains strong in Argentina, partly due to the work of Sergio Lambertucci, the biologist at the University of San Carlos de Bariloche. He has been studying the condor for over ten years and was gathering data for two projects during my stay in Argentina. The first was a general monitoring project that gathers population data all year at several different condoreras. The information is mapped with GIS software to compare and relate the populations to livestock and local weather conditions. The second study involved gathering feathers from several areas to measure the lead content of the feathers. It was found that many Californian condors were dying of lead poisoning from eating carrion that was killed by lead shot, and this may also be a problem in Argentina.

I was involved in only a small portion of the research that Sergio is managing, but it is clear that the amount of volunteer hours and logistical support that GVI provides is invaluable to his research. Through their collaboration on research and educating local landowners it is hoped that the Andean condor population will remain strong through the years to come.

Story by David Young

Condor



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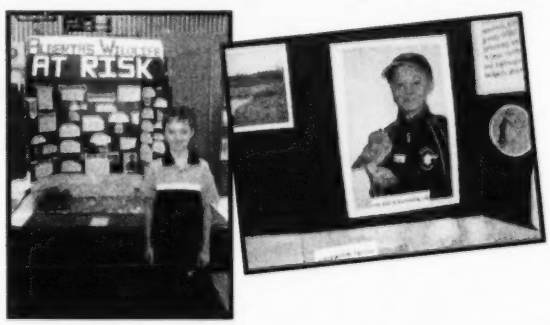
Condor

ASPB Award Winner at the Edmonton Regional Science Fair



Topic: Alberta's Wildlife At Risk

Graham Campbell
Grade 6
H.E. Bergman Elementary School
Bonnyville, Alberta

Judge Robin Leech selected Graham's entry from over 30 displays, citing the inclusion of well presented science as the deciding factor.

ASPB's Introductory Plant Identification Workshop – *A Success*

by Kristen Foreman

Fun in the sun, learning about plants! Laurie Hamilton

On Saturday, May 26, 2007, Mari Decker, Amy Folden and Laurie Hamilton offered the ASPB's Introductory Plant Identification Workshop. The workshop was held at the Environmental Learning Centre in Fish Creek Provincial Park, Calgary, and the weather was perfect! The majority of participants were biologists with consulting companies and industry. However a couple of people from government and environmental non-governmental organizations also participated, as well as some who attended for personal interest.

The workshop consisted of a practical and a theoretical introduction to vascular plant identification. Focus was on learning morphology and terminology, and using taxonomic keys and field guides to learn species of a few of the charismatic plant families in Alberta. This course was designed for people with little or no plant identification experience, and for those who want to refresh their taxonomy and terminology. The workshop changes from year to year based on suggestions from participants, so even if you have attended before it is well worth another go. The coaching provided while using our new (or refreshed) skills to identify the plants on the Shannon Terrace was positive and fun. A batch of biologists are now prepared for their next field season…bring on the sedges!

Highlights and pictures from the 2008 workshop will be presented in the summer edition of the BIOS newsletter.

Mentoring Program

Dr. Geetha Ramesh, a Mentor in the ASPB Mentoring Program, was named by the Indo-Canadian Chamber of Commerce (ICCC) as their Member of the Year (see the full article in the National Post, June 16, 2007 edition). She also was nominated as an immigrant of distinction by the Calgary Immigrant Aid Society. Both awards recognize her dedication to helping others, particularly new immigrants to Canada and victims of disaster (2004 tsunami). Dr. Ramesh also was nominated for the Women of Vision in Calgary and was appreciated by the Stars of Alberta. Dr. Ramesh helped to establish the ICCC's Alberta Business Association, and she is currently the national Director for the same. One of Dr. Ramesh's passions is to serve as a mentor and role model for immigrants, especially women. Dr. Ramesh is also part of the mentoring Committee of Women in Science and Technology for the "Society of Environmental Toxicology and Chemistry" in the US. Dr. Ramesh currently works as a Technical Director, at Worley-Parsons Komex in Calgary. The ASPB is pleased to have Dr. Ramesh as one of its Mentors.

The ASPB Mentoring Program requires more Mentors. Some recent requests include:

- Someone with regulatory experience, including wetland and environmental impact assessments (preferably in Edmonton).
- A researcher working in animal physiology or ecophysiology
- Someone familiar with genetics and molecular biology, pathology of diseases, public health and environment
- An environmental engineer, including experience with environmental management, reclamation, soil remediation, waste management, etc.
- A wildlife biologist or researcher that could provide field experience in conducting wildlife surveys, especially for endangered species (e.g. burrowing owls)
- Someone who could or has merged the fields of botany and GIS
- Someone familiar with site assessment and remediation
- A histologist or a developmental biologist

If you can commit to the Mentoring Program or would like to learn more about it, please visit the ASPB website at www.aspb.ab.ca or contact the Mentoring Coordinator, Marilyn Collard, at mentoring@aspb.ab.ca or (403) 256-1902.

Results of Meetings in 2008 of ASPB Registration Committee

APPLICANT APPROVED AS PROFESSIONAL BIOLOGIST

Ademola Adeyemi
David Almanza
Aaron Anderson
Sharon Anderson
Amber Ashenhurst
Jennifer Barker
Michael Bartlett
Danica Belter
Sean Bennett
Carrie Bentley
Wayne Bessie
Jeffrey Borisko
Karl Bresee
Christopher Briggs
Paulina Brudnicki
Elvie Burton
Norma Calvo
Jennifer Carscallen
Tara Caseley
Kerri Charest
Matthew Clarke
Jacquelyn Conrod
Denise Cormier
Mark Croasdale
Jenna Cross
John Derksen
Lyndsay Doetzel
Gillian Donald
Tracey Etwell
Warren Fleming
Silvie Forest
Vernon Fraser
Shannon Gavin
Marlene Gifford
Lorne Gould
Tomasz Gradowski
Carole Hachey
Alicia Hamm
Sarah Hechtenthal
Kyle Hegel
Natalie Henneberry
Kristy Hogsden
Angela Holzapfel
David Huebert
Kathryn Hull
Zayna Jaafar
Christopher Jastrebski
Julie Johnson
Mary Ann Johnson
Jason Kerr
Abdul Khadair
Lisa Kinnear
Rajendra Kothavade
Timothy Kroeker
Piia Kukka
Chris Lafleur
Erica Lee
Christel Leonhardt
Christine Loiselle
Ryan Lorenz
Sandra Lukas-Amulung
Conor McKenna
Michael McKernan
Blair McMahon
Brian Meagher
Christina Metke
Sean Miller
Matthew Mitchell
Jennifer Mundy
Liisa Munter
Marie Nietfeld
Marc Obert
Ryan Okada
Vitaly Ostroumov
Angela Perry
Richard Rohl
Erin Rooney
Jennifer Rowell
Kent Russell
Nicole Salamon
Layne Seward
Evan Shaw
Kashef Sheikh
Michael Shulz
Darcey Shyry
Brock Simons
Clinton Smyth
Rachel So
Cameron Stevens
Stephen Symes
Jaroslaw Szczot
Juanna Thompson
Markus Thormann
Shaun Toner
M. Deirdre Treissman
Dorian Turner
Wendy Vanderwel
Javier Vargas
Valerie Veenstra
Torgny Vigerstad
Sang Vo
Pamela Vust
Robert Wapple
Lucas Warner
Tom Watson
Chad Willms
Vivienne Wilson
Ted Zuurbier

APPLICANT APPROVED AS BIOLOGIST IN TRAINING (BIT)

Falah Al Muhammedawi
Jennifer Arnold
Yvonne Bazin
Adam Blake
Andrea Borkenhagen
Kristen Bosch
Grant Chapman
Stephanie Comparelli
Stephen D'Abadie
Kristen Dieter
Cortney Ebel
Forrest Evans
Melissa Froese
Marie-Louise Furman
Mark Gantz
Mitchell Goodjohn
Garth Graham
Michelle Gray
Bryan Hensel
Shannon Higgins
Tiffany Hnatiuk
Kelly Horton
Kathryn Illian
Scott Irwin
Trina James
Tyler Jans
Darryl Jarina
Sarah Kellet
Jarrett Leinweber
Stephanie Lundberg
Fern Maas
Richard MacAlpine
Grace Mitchell
Lindsey Mooney
Melissa Moss
Rita Muwanga
Jon Nachtigall
Katrina Noel
Shireen Palmer
Katrina Patel
Kimberly Phipps
Heather Pomerleau
Jacqueline Redburn
Jeremy Reid
Gregory Ross
Sandra Salsman
Jordan Smith
Michael Stefanyk
Marta Sudyk
Jessica Tallman
Ingrid van Herk
Nichole van Steenbergen
Rani Wiedemann
Jaime Wilde
Ryan Willson
Michael Wiseman
Kristen Wright
Janet Zazubek

APPLICANT APPROVED AS STUDENT BIOLOGISTS

Rushita Adhikari
Nathan Debruyn
Adam Der
Lindsay Fenty
Robyn Gamber
Derek Hird
Mimi Luong
Julie Nielsen
Amanda Parson
Colleen Phelen
Amie Quinn
Ryan Zapisocki

JOIN A COMMITTEE

Now that you're a member, why not join a committee?

The Registration Committee and Audit Committee need your help. The role of the Audit Committee is to audit member compliance in the Continuing Competency Program. Go online at www.aspb.ab.ca or email pbiol@aspb.ab.ca to get involved.

THE BIOFUEL FRENZY

by Robin Leech, P.Biol

Will switching from fossil fuels to biofuels really reduce greenhouse gases?

No! Well, maybe. It really all depends. "Any biofuel that causes clearing of natural ecosystems is likely to increase global warming," says Joseph Fargione et al., in an article titled: Land Clearing and the Carbon Biofuel Debt [SCIENCE, 7 Feb 2008 issue].

Fargione says not all biofuels are alike. For example, sugar cane produced in Brazil stands out as the most efficient source studied, but as long as there is land conversion, biofuels do not diminish carbon dioxide emissions.

Biofuels made from sources that do not require land conversion, such as corn stover (the parts of the corn plant left after the ears are harvested), animal waste, damaged trees, algae and food wastes are promising alternatives.

THE STATS BEHIND THE STUDY

1. Plants and soils contain almost three times as much carbon as does the atmosphere.
2. About 20% of total current carbon emissions comes from land-use (=land conversion) change.
3. In 2004, 74 million acres (29.95 million ha) of the US land were devoted to corn for livestock feed as well as food crops. By 2016, about 43% of those areas will be used to harvest corn for ethanol.
4. 27% of new palm oil plantations in Indonesia are created on land that began as tropical rain forest; 1.5% of these lands is being deforested each year.
5. In 2006, the US produced 250 million gallons (946,350,000 Litres) of biodiesel. Total production capacity is already 1.4 billion gallons per year, and is expected to more than double with new plants and expansion of existing ones.
6. 2006 ethanol capacity in the US was 4.4 billion gallons, with an expected increase of 2.1 billion gallons with current construction and expansion projects.
7. US gasoline consumption is 389 MILLION GALLONS PER DAY, or about 142 billion gallons per year.

Source: Discover Magazine, May 2008, page 14, article by Jennifer Barone.

THE PERFECT DAY OFF

Oh, the joys of field biology. Getting vehicles stuck, working in the rain, forging across deep, slow moving creeks; they all have the same thing in common – mud! But what happens when you come across mud on your day off?

It was a perfect summer day in Yukon, and four of us (two guys and two girls) had ventured down an old trail a few kilometres off the Alaska Highway. We had been biking for some time and were quite hot when we came around a corner and there it was, a mud puddle. Not just any mud puddle, but a large, smooth puddle that just beckoned to be jumped in. So we put down our bikes and jumped in, shoes and all. We sunk up to the knees and started laughing as each of us struggled to pull our feet out. Feet emerged lacking shoes, and arms plunged into the goo in hopes of recovering the missing footwear. Then, inevitably, two of us lost our balance. The guys had managed to escape, and laughed at our misfortune. We fought back with the only weapon we had – mud! Then we would struggle, and sink back into the mud exhausted. As we begged for help, the guys eventually came close enough to pull us out, but when they got within arms reach we would pelt them with mud balls again. Finally we were too exhausted to continue. We rescued all missing footwear, and biked back to the nearest creek. Field days and mud can create some very poor memories, but I'll take that perfect mud puddle over a spa treatment any day!

By Linda Zimmerling

ARTICLES WANTED

We are looking for articles to put in the BIOS newsletter. As field season approaches, it might be fun to reflect on past field seasons, and the various mishaps or adventures that occurred. Please submit any stories and photographs you have that highlight the glorious adventure that is field biology!